



# Arizona Transportation Research Center

Newsletter — July 2003

## Project Updates

Highlights from selected projects

### STATE PLANNING AND RESEARCH (SPR) PROJECTS

#### *SPR 486 – HIGHWAY FACILITIES FOR AN AGING ARIZONA POPULATION*

The state of Arizona, like the nation as a whole, has an increasing number of residents over the age of 65. Nationwide, the largest increase in licensed drivers is occurring in the over 85 population, and, by 2030, older drivers are expected to account for 18.9% of all vehicle miles driven, compared to 6.7% in 1990.

This research study collected new data from Arizona drivers and also reviewed data from around country. The study identified significant differences between accidents and injuries between older and younger drivers. Older Arizona drivers were asked to provide comments and suggestions related to these concerns. Study recommendations included:

- Modification of left-turn phase indicators.
- Larger and better illuminated signs and devices for lane assignment on intersection approach.
- Improved signage, both in size, lighting, and contrast, and advance distance notification of required tasks on all roadways.
- Pedestrian crossing-design improvements, including increased timing at crosswalks, median refuge islands, more frequent pedestrian opportunities, and placards explaining pedestrian control signals.

#### *SPR-545, Evaluation of Roundabout Options for ADOT*

Lee Engineering has completed the data collection for this project. The focus of the study is a new roundabout at the intersection of Happy Valley Road and I-17 in Phoenix, Arizona. The data include a public opinion poll of drivers who used the roundabout. Preliminary review of the data indicates general support for the roundabout concept with some refinements suggested.

While roundabouts are commonly used throughout the world they are new to Arizona. The capacity of these intersections appears to be greater, safety may be improved, and construction and maintenance costs are less than other alternatives. The report will provide guidelines for the state to use in selecting appropriate roundabout locations and designing them.

#### *SPR-510, Performance of Various Types of Bridge Deck Joints*

Research is being performed by Baker Engineering to evaluate the performance of a variety of bridge deck joints. A literature search has been completed and a survey of other states is being conducted. Preliminary information from ADOT personnel indicates that the most critical factors affecting the longevity of bridge deck joints are proper installation and maintenance of the joints. While the research is underway, ADOT is reviewing maintenance procedures and taking steps to train field inspectors with respect to bridge deck joints.

#### *SPR-538, High Performance Concrete for Bridge Structures in Arizona*

This research is directed toward developing specifications for use of high performance concrete (HPC) in bridges. The research includes design and construction of a demonstration project. The use of HPC in other states has proven to be a means of reducing the cost to construct and maintain bridges.

## ATRC UPDATE

The two ADOT Research Councils met last month to evaluate research proposals for fiscal year 2004. The ITEP (Intelligent Transportation Systems, Traffic & Safety, Environment, and Planning & Administration) Research Council evaluated 12 proposals. The MSM (Materials & Construction, Structures, and Maintenance) Research Council evaluated 4 proposals. After both research councils ranked the proposals presented to them ATRC submitted a recommendation for funding seven projects to the ADOT research Steering Committee. The Steering Committee subsequently added another research project and increased the total funding in order to accommodate this project.

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